

THERE IS CLAIMED:

1. A photonic switching device for switching without contention data in the form of optical packets, said device including a space switching matrix with a plurality of input ports and a plurality of output ports and a unit external to said space switching matrix including a buffer memory common to all said output ports of said matrix, wherein each of said output ports provides access to said buffer memory via a space switching stage consisting of switches having a 1-to-2 switching function.
2. The device claimed in claim 1 wherein said buffer memory consists of optical delay lines.
3. The device claimed in claim 1 wherein said 1-to-2 space switching function of each of said output ports of said matrix is implemented by means of optical amplifier switches.
4. The device claimed in claim 1 wherein said 1-to-2 space switching function of each of said output ports of said matrix is implemented by means of an opto-electronic switch including a photodiode optical receiver and a light-emitting diode or laser diode optical emitter.
5. The device claimed in claim 4 wherein said buffer memory is an electronic buffer memory.
6. The device claimed in claim 1 further including a switch unit disposed between said space switching stage and said buffer memory to differentiate traffic intended for extraction and traffic having to enter said buffer memory to be delayed.
7. The device claimed in claim 6 wherein said switch unit consists of as many individual 1-to-2 switches as there are output ports in the space switching matrix.